NON-PUBLIC?: N
ACCESSION #: 9003140403
LICENSEE EVENT REPORT (LER)

FACILITY NAME: South Texas, Unit 2 PAGE: 1 OF 3

DOCKET NUMBER: 05000499

TITLE: A Reactor Trip Due to Spurious Actuation of Reactor Trip Breaker
EVENT DATE: 02/02/90 LER #: 90-002-00 REPORT DATE: 03/01/90

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Charles Ayala - Supervising Licensing Engineer

TELEPHONE: (512) 972-8628

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On February 2, 1990, Unit 2 was in Mode 1 at 100 percent power. At 0259 hours the Train S Reactor Trip Breaker spuriously opened. This initiated a turbine trip and subsequent reactor trip. Feedwater isolation occurred on low average Reactor Coolant System Temperature and an Auxiliary Feedwater System actuation occurred on low steam generator level as expected. The plant was stabilized in Mode 3. No unexpected post trip transients occurred. Extensive troubleshooting of the Solid State Protection System and the Reactor Trip Breaker was performed; however, the cause of the spurious breaker opening is unknown. As a conservative measure, the fifteen Universal Logic Cards associated with the reactor trip function in Train S of the Solid State Protection System have been replaced. Instrumentation has been installed on the reactor trip breaker in an attempt to isolate the source of the spurious trip signal should it recur.

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END OF ABSTRACT

DESCRIPTION OF EVENT:

On February 2, 1990, Unit 2 was in Mode 1 at 100 percent power. At 0259 hours, the Train S Reactor Trip Breaker opened. Opening of the breaker initiated a turbine trip and subsequent reactor trip. A feedwater isolation occurred on low average Reactor Coolant System temperature and an Auxiliary Feedwater System actuation occurred on low steam generator level as expected. The Main Steam Isolation Valves were closed to limit the cooldown and the plant was stabilized in Mode 3. No unexpected post trip transients were observed. The NRC was notified of this event at 0352 hours.

Troubleshooting was performed to determine the cause of the event. Plant computer logs were reviewed for the source of the trip. No actuation of the Solid State Protection System was identified which would account for the opening of the Train S breaker. The Train S Reactor Trip Breaker was subjected to thermographic examination and inspection. Westinghouse Universal Logic Cards and their power supplies in the Solid State Protection System were inspected and tested. The SSPS circuits and Train S Reactor Trip Breaker were inspected for loose connections and for conformance with schematic diagrams. No conditions were found which would result in a spurious trip.

In an attempt to identify external conditions which could initiate spurious operation of the trip circuits, additional troubleshooting was performed. SSPS Universal Logic Cards were subjected to heat and vibration. A radio frequency test was performed in the area of the SSPS equipment. No problems were noted with the equipment during these tests.

As a conservative measure, the fifteen Train S Universal Logic Cards associated with the reactor trip function were replaced prior to restart of the unit.

CAUSE OF EVENT:

The cause of the Train S Reactor Trip Breaker to open spuriously is unknown at this time. Instrumentation has been installed to monitor the breaker undervoltage trip device and shunt trip coils in an attempt to identify the source of the spurious signal should another trip occur.

ANALYSIS OF EVENT:

Unplanned reactor trips are reportable pursuant to 10CFR50.73(a)(2)(iv). the plant tripped from 100 percent power and was brought to a stable condition in Mode 3 with no unexpected post trip transients.

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CORRECTIVE ACTION:

The following corrective actions are being taken as a result of this event:

1. As a conservative measure, the fifteen Universal Logic Cards associated with the reactor trip function in SSPS Train S have been replaced.

2. Instrumentation has been installed to monitor the Reactor Trip Breaker undervoltage trip device and shunt trip coil in an attempt to identify the source of the spurious signal should another trip occur.

ADDITIONAL INFORMATION:

A previous similar spurious actuation of the Train S Reactor Trip Breaker was reported under LER 89-013.

NL.LER90002.U2

The Light
company P.O. Box 1700 Houston, Texas 77001 (713) 228-9211
Houston Lighting& Power

March 1, 1990
ST-HL-AE-3389
File No.: G26
10CFR50.73

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk

Washington, DC 20555

South Texas Project Electric Generating Station
Unit 2
Docket No. STN 50-499
Licensee Event Report 90-002 Regarding
A Reactor Trip Due to Spurious
Actuation of a Reactor Trip Breaker

Pursuant to 10CFR50.73, Houston Lighting & Power Company (HL&P) submits the attached Licensee Event Report (LER 90-002) regarding a reactor trip due to spurious actuation of a reactor trip breaker. This event did not have any adverse impact on the health and safety of the public.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628 or myself at (512) 972-7921.

G. E. Vaughn
Vice President
Nuclear Operations

GEV/BEM/n1

Attachment: LER 90-002 (South Texas, Unit 2)

NL.LER90002.U2 A Subsidiary of Houston Industries Incorporated

ATTACHMENT 1 TO 9003140403 PAGE 2 OF 2

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Houston Lighting & Power Company File No. : G26
South Texas Project Electric Generating Station Page 2

cc:

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Revised 12/15/89

L4/NRC/

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